WHAT IS CLAIMED IS:

1. A portable communication device, comprising:

at least one peripheral device including an electro-mechanical or electro-acoustical component;

a master component; and

a system bus coupled to said at least one peripheral device, said system bus including at least two signal-carrying lines, one of said lines being a composite line adapted to carry more than one digital signal between said master component and said at least one peripheral device.

2. The portable communication device of claim 1, wherein said portable communication device is one of a hearing instrument, a headset, a personal digital assistant, and a portable telephone, and is adapted to receive power from a battery to which one of said at least two signal-carrying lines is coupled.

3. The portable communication device of claim 1, wherein said electro-mechanical or electro-acoustical component is one of an electret-type condenser microphone, a MEMS-based microphone, a receiver, a telecoil, a volume control, a sensitivity control, and a switch.

4. The portable communication device of claim 1, wherein said system bus is coupled to one of a resistor and a current source.

5. The portable communication device of claim 4, wherein said resistor is between about 500 kilo-ohms to about 1200 kilo-ohms.

6. The portable communication device of claim 1, wherein said composite line carries at least any two of a power signal, a reference signal, a clock signal, a synchronization signal, and a data signal.

7. The portable communication device of claim 1, wherein one of said more than one digital signal is a data signal that is time multiplexed into blocks having a number of frames, each frame having at least one data slot.

8. The portable communication device of claim 7, wherein each of said number of frames includes a control slot carrying control data between said master component and said at least one peripheral device, said data signal carrying audio data, a sample of said audio data being transferred via said system bus across at least two frames.

9. The portable communication device of claim 7, wherein said data signal includes control data for controlling a characteristic of said at least one peripheral device.

10. The portable communication device of claim 7, wherein said at least one data slot is programmable by said master component to include a plurality of data slots.

11. The portable communication device of claim 1, wherein the power consumption of said system bus is between about 30 microwatts and about 1 milliwatt, and components coupled to said system bus, including said master component and said at least one peripheral device, operate at a voltage between about 0.7 and about 2.0 volts.

12. The portable communication device of claim 1, wherein the total power consumption of said portable communication device is between about 0.2 milliwatts and about 2 watts.

13. The portable communication device of claim 1, wherein said master component is one of a digital signal processor and an ASIC.

14. The portable communication device of claim 1, further including a wireless external interface, said portable communication device being programmable via said wireless external interface with programming data to cause internal parameters of said portable communication device to be adjusted.

15. The portable communication device of claim 1, further including a wireless external interface, said portable communication device being programmable via said wireless external interface with audio processing data to cause real-time adjustment of processing parameters of said portable communication device.

16. The portable communication device of claim 1, further including a wireless external interface adapted to communicate wirelessly data between said portable device and another portable device.

17. The portable communication device of claim 1, wherein each data bit transmitted on said system bus is sampled twice to increase immunity to glitches and noise on said system bus.

18. The portable communication device of claim 17, wherein said composite line carries a data signal and a synchronization signal, said double-sampling of each bit permitting said synchronization signal to be transitioned during

any rising or falling edge of the system clock of said double-sampling, whereby said double-sampling enables reliable discrimination between said data signal and said synchronization signal.

19. The portable communication device of claim 1, wherein said composite line carries at least a synchronization signal that includes a first bit composed of two sampled values and a second non-consecutive data bit composed of two sampled values, said synchronization signal signaling a valid synchronization when the two sampled values of said first data bit are identical and when the two sampled values of said second data bit are identical.

20. The portable communication device of claim 1, further including an external interface, said external interface being coupled to an external system bus that includes at least two signal-carrying lines, one of said lines being an external composite line adapted to carry more than one digital signal between at least one external master component and an external peripheral device that includes an electro-mechanical or electro-acoustical component, said external system bus being communicatively coupled to said system bus via said external interface.

21. The portable communication device of claim 1, wherein said system bus is actively driven with tri-state buffers.

22. The portable communication device of claim 1, wherein said portable communication device is a hearing instrument, said at least one peripheral device includes a microphone and a receiver, said more than one digital signal including a digital audio signal.

23. The portable communication device of claim 1, wherein one of said more than one digital signal is a data signal that includes control data for controlling a characteristic of said at least one peripheral device.

24. The portable communication device of claim 1, wherein one of said more than one digital signal is a data signal that includes digital audio data.